

A NEW SPECIES OF *SYNCHELIDIUM* (CRUSTACEA,
AMPHIPODA) FROM SAND BEACHES IN CALIFORNIA

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Abstract.—Barnard, J. Laurens, Department of Invertebrate Zoology, Smithsonian Institution, Washington, D.C. 20560.—A commonly encountered sand beach crustacean in California is the following new species of *Synchelidium*. It is easily distinguished from deeper water species in the minute uropod 3, small epimeron 3 of females and the diffuse ommatidial eyes lacking a capsule. My appreciation is extended to the several collectors of this species noted in the text. Carolyn L. Cox kindly inked and prepared the plates for publication.

Synchelidium micropleon, new species

Figs. 1-4

Synchelidium n. sp. Enright, 1960:758-760.

Diagnosis.—Rostrum partly downturned. Eyes without distinct capsule, ommatidia scattered. Peduncle of antenna 1 short and stout. Right lacinia mobilis bifid. Inner plates of lower lip fully fused, lacking notch. Outer plate of maxilla 2 normally rounded, not broadened, evenly setose. Inner plates of maxillipeds narrow and elongate, bearing only 2 long apical setae.

Anteroventral bevel of coxa 1 weak. Article 2 of gnathopods 1-2 densely setose anteriorly, setae mixed short and medium. Lobe of article 5 on gnathopod 1 about 1.1 times as long as article 6; posterior margin of article 6 about 0.7 times as long as anterior margin; angle of palm 45° to longitudinal axis of article 6; serrations of palm of medium size. Article 6 of gnathopod 2 about 7.5 times as long as wide, not tapering distally; length of article 7 about 20% of article 6.

Pereopods 3-4 of stout form, dactyls vestigial; other pereopodal dactyls of medium size. Article 2 of pereopods 5-7 poorly setose or setulose posteriorly, each with mediofacial row of long setae; article 5 of pereopods 5-6 with anterior comb of stiff spines.

Epimeron 3 of both sexes very small, narrower than epimeron 2, posterior margin sloping anteriorly; epimeron 2 with several facial setae in vertical row, lower posterior margin weakly concave, posteroventral corner lacking tooth but weakly extended and rounded. Uropod 3 very small, reaching less than halfway along rami of uropod 1, peduncle very short. Telson almost perfectly ovate.

Description.—Primary flagellum of antenna 1 with 9 articles in female, 8 in male, one aesthetasc each on articles 4-8 in female, upwards from 5 on articles 1-6 in male, example of formula in male = 6-6-6-6-7-8-1-0.

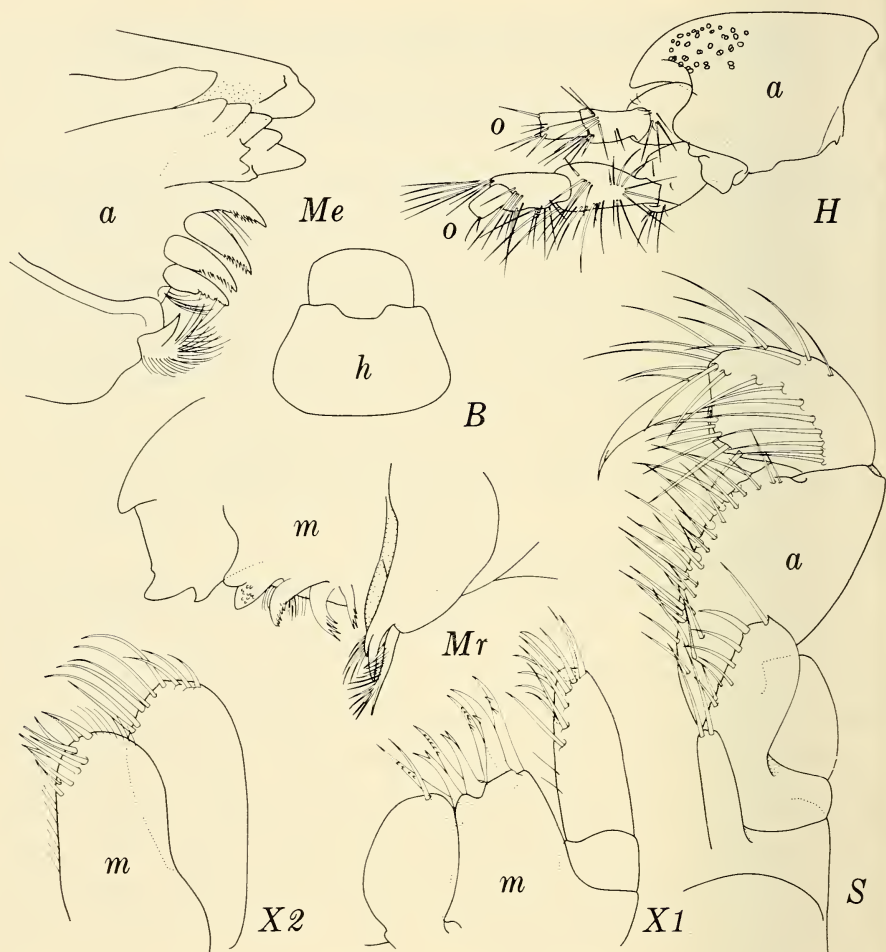


Fig. 1. *Synchelidium micropleon*, new species, holotype female "a" 3.37 mm; h = female "h" 2.78 mm; m = female "m" 2.85 mm. A, Antenna; B, Prebuccal, anterior; C, Coxa; D, Dactyl; E, Epimeron; F, Body; G, Gnathopod; H, Head; I, Inner Plate or ramus; L, Lower lip; M, Mandible; N, Pleon; O, Outer plate or ramus; P, Pereopod; R, Uropod; S, Maxilliped; T, Telson; X, Maxilla; e, Left; o, Apex omitted; r, Right side; s, Setae omitted.

proximal to distal (density reduced in illustration); accessory flagellum absent.

One simple gill each on coxae 2-6, gill of coxa 6 adze-shaped, that of coxa 5 clavate, that of coxa 4 weakly clavate; others slender, sausage shaped, gill of coxa 5 dominant. Brood plates long, slender, with long setae mostly apical, only 3 pairs present, thus absent on coxa 2.

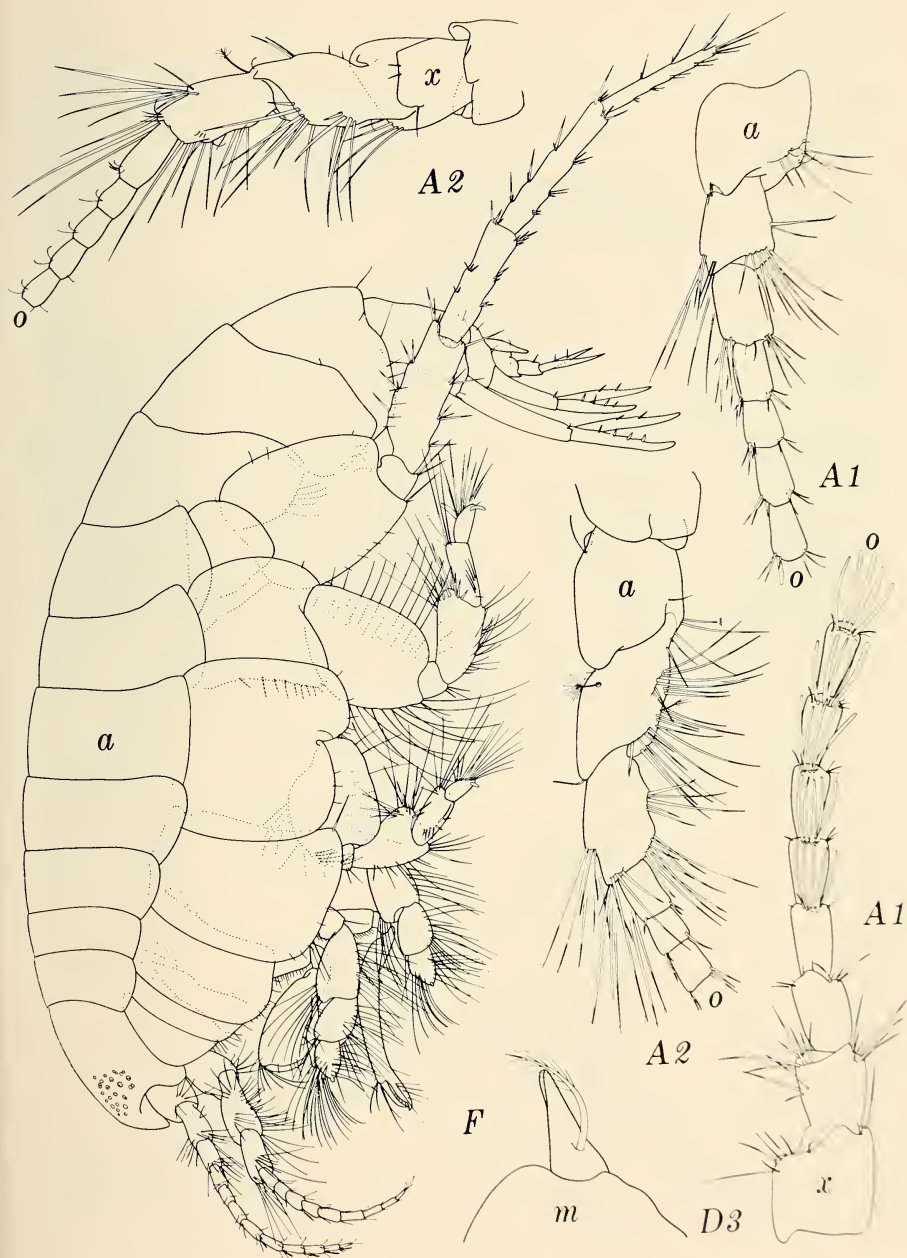


Fig. 2. *Synchelidium micropleon*, new species, holotype female "a" 3.37 mm; m = female "m" 2.85 mm; x = male "x" 2.39 mm. See Fig. 1 for symbols.

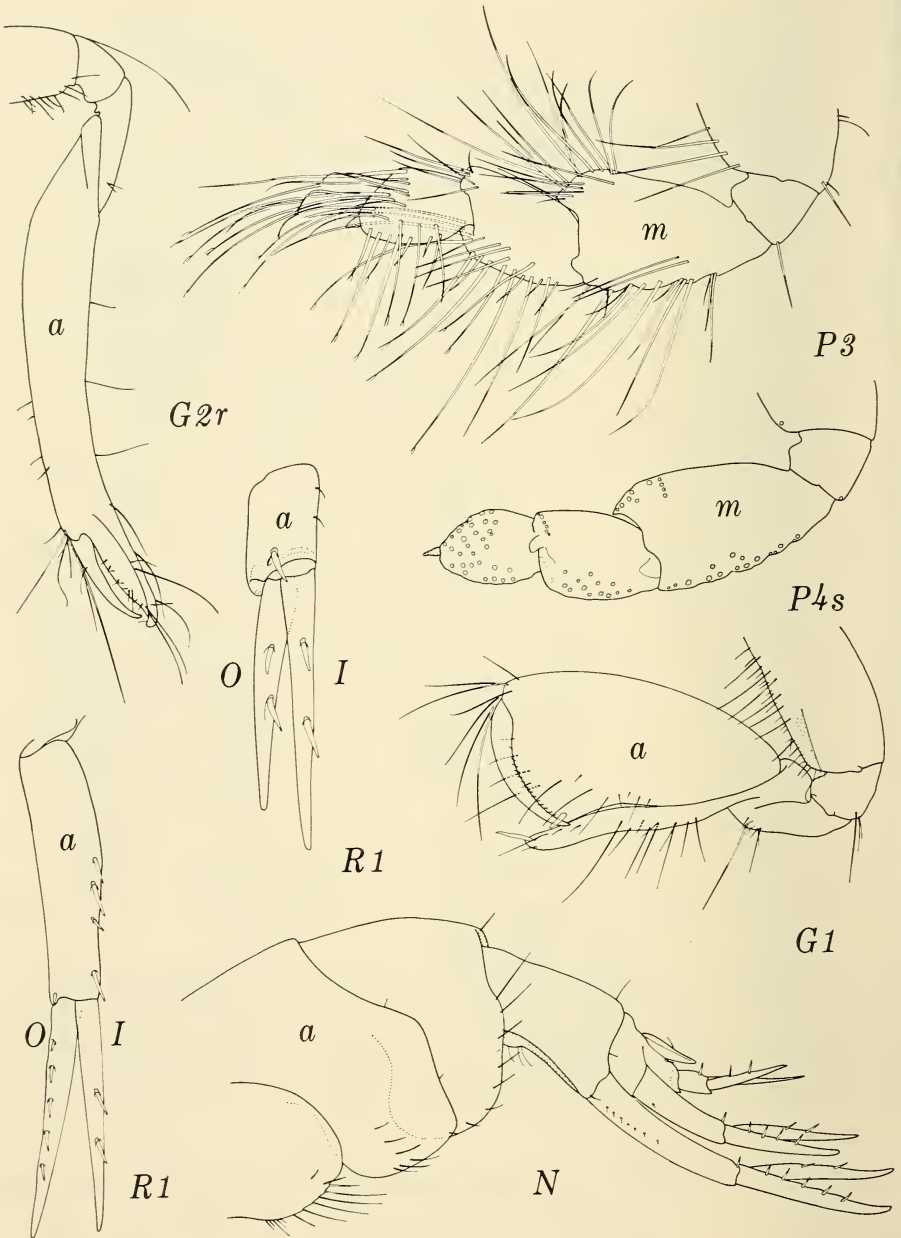


Fig. 3. *Synchelidium micropleon*, new species, holotype female "a" 3.37 mm; m = female "m" 2.85 mm. See Fig. 1 for symbols.

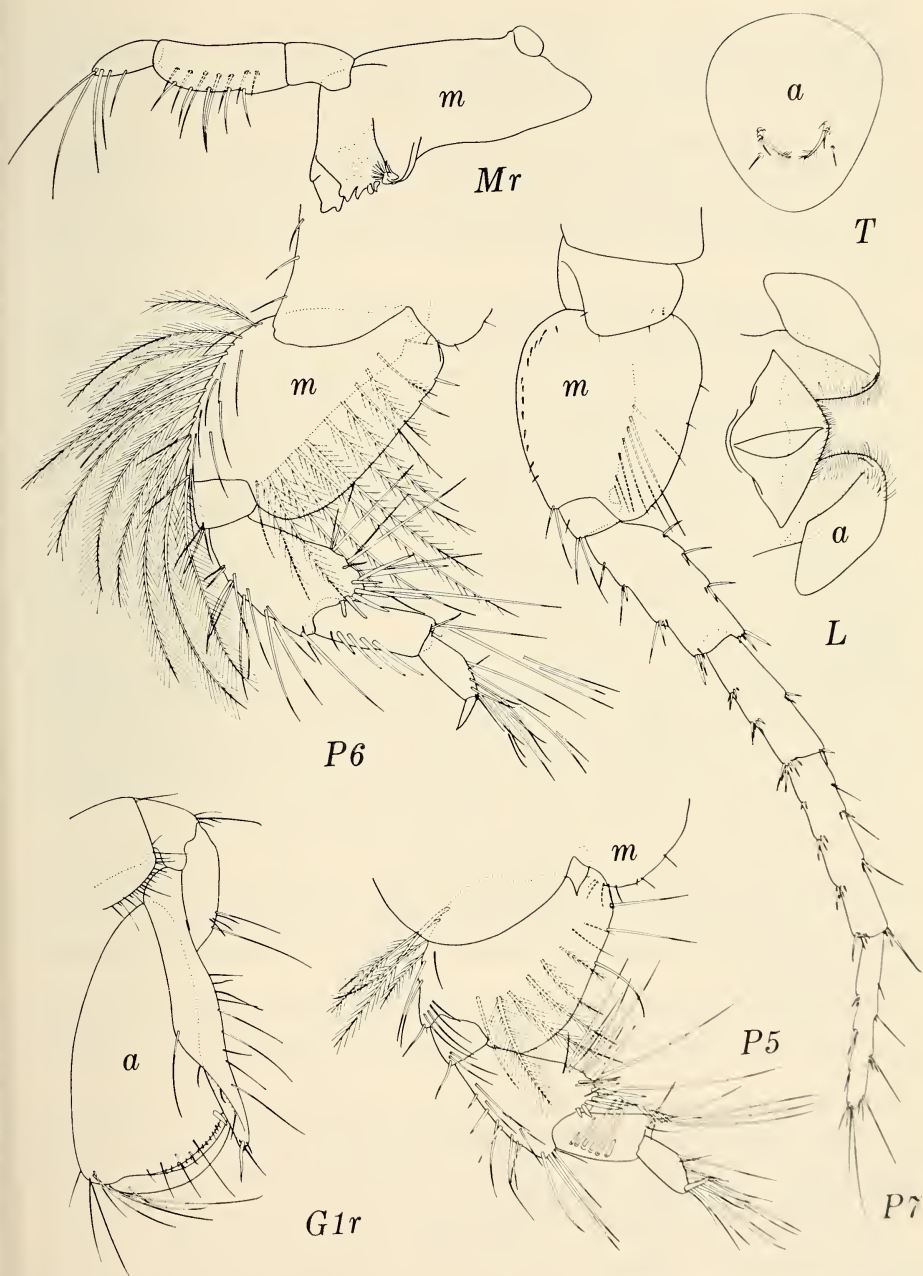


Fig. 4. *Synchelidium micropleon*, new species, holotype female "a" 3.37 mm; m = female "m" 2.85 mm. See Fig. 1 for symbols.

Spination on rami of uropods 1-3 variable in voucher material, usually outer ramus of uropod 1 with 3 spines, inner with 2, outer of uropod 2 with 2 spines, inner with 2, outer of uropod 3 with 2, inner with one; occasionally outer ramus of uropod 1 with 5 spines, outer of uropod 2 with 4, inner with 3, or in smaller specimens rami of uropod 3 each with one spine and inner of uropod 2 with one spine. Medial apex of peduncle on uropod 2 with one spine slightly larger than that illustrated for lateral apex.

Illustration of detached uropod 1 reduced in magnification from that of uropod 2.

No fully terminal male available in collections, illustrated male with slightly elongate flagellum of antenna 2; presumably terminal males swim in neritic nekton and will have to be captured in plankton tows.

Relationship.—This species differs from all known species in the very small uropod 3 which reaches less than halfway along the rami of uropod 1. In addition, epimeron 3 of the female is narrowed as in males of various species; as far as can be determined epimeron 3 on females of other species is as broad as or broader than epimeron 2.

The known species of *Synchelidium* are outlined below and, for each, one or more additional characters of difference from *S. micropleon* are stated:

Synchelidium haplocheles (Grube) (See Sars, 1895, as *S. brevicarpum*; Stebbing, 1906): longer more slender peduncles of antennae in female, much broader inner plate of maxilliped with shorter, more numerous setae; subrectangular, emarginate telson. Northeastern Atlantic-Mediterranean.

Synchelidium intermedium Sars (1895): short lobe on wrist of gnathopod 1, non-ovate telson. Northeastern Atlantic-Mediterranean.

Synchelidium tenuimanum Norman (see Sars 1895, as *S. haplocheles*): short wrist of gnathopod 1, non-ovate telson. Northeastern Atlantic.

Synchelidium maculatum Stebbing (1906) (see Chevreux and Fage, 1925): short wrist of gnathopod 1, non-ovate telson. Northeastern Atlantic-Mediterranean.

Synchelidium longidigitatum Ruffo (1947): enlarged dactyls of pereopods 3-4; many more posterior setae on article 2 of pereopods 5-7. Mediterranean.

Synchelidium shoemakeri Mills (1962): sharper tooth on epimeron 2, non-ovate telson, more numerous posterior setae or setules on article 2 of pereopods 5-7, broader inner plates of maxilliped with more numerous shorter setae. Northeastern Pacific.

Synchelidium rectipalium Mills (1962): epimeron 2 lacking posteroventral excavation, non-ovate telson, more numerous posterior setae on article 2 of pereopods 5-7, broader inner plates of maxillipeds with more numerous shorter setae, palm of gnathopod 1 transverse, dactyl of gnathopod 2 much longer, hand shorter. Northeastern Pacific.

Synchelidium miraculum Imbach (1969): dactyls of pereopods 3-4 large, female antennal peduncles much more elongate, article 2 of antenna 1 especially elongate, article 3 short, short wrist of gnathopod 1. South China Sea.

Synchelidium americanum Bousfield (1973): less oblique palm of gnathopod 1, non-ovate telson, unexcavate epimeron 2, broader inner plates of maxillipeds with more numerous shorter setae, deeply notched inner lobes of lower lip, stronger posterior setation on article 2 of pereopods 5-7. Northwestern Atlantic.

Holotype.—USNM No. 109895, female "a" 3.37 mm (illustrated).

Type-locality.—San Francisco Ocean Beach, California, 13 September 1959, intertidal, J. T. Enright.

Paratypes.—Type-locality, female "a" 3.37 mm (illustrated), female "h" 2.78 mm (illustrated), female "m" 2.85 mm (illustrated), female "p" 2.32 mm and 4 other specimens. *Voucher material*: Morro Bay, California, 9 September 1959, intertidal, J. T. Enright, male "x" 2.39 mm (illustrated) and 76 other specimens.

Other material.—Dillon Beach, Marin County, California, 19 September 1959, intertidal, J. T. Enright (2); La Jolla California, beach in front of Scripps Institution of Oceanography, intertidal, following collections: March 1938, net, Olga Hartman (13); 1957-1958, 6 m, E. W. Fager (25); 15 May 1958, J. T. Enright (100+); Estero de Punta Banda, Baja California, 23 February 1952, sandy beach, T. E. Bowman (2).

Distribution.—Dillon Beach, California to Estero de Punta Banda, Mexico, 0-6 m, mainly on sand beaches.

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